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EXAMINER
DOVE, TRACY MAE

ART UNIT	PAPER NUMBER
1745	10

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Please find below and/or attached an Office communication concerning this application or proceeding.

MF=10

Office Action Summary	Application No. 09/265,601	Applicant(s) Choi
	Examiner Tracy Dove	Art Unit 1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Oct 11, 2001* .

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-8* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☐ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
18) ☐ Interview Summary (PTO-413) Paper No(s). _____
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other:

DETAILED ACTION

This Office Action is in response to the communication filed on 10/11/01. Applicant's arguments have been considered, but are not persuasive. Claims 1-8 remain rejected in view of the prior art of record. This Action is Non-Final.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-4 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 1 and 3 contain the limitation that the carbon material has an intensity ratio of less than 0.2. However, the specification does not describe how the intensity ratio was obtained. Intensity ratios may be measured using different methods and it is not clear how the intensity ratio of the present invention was obtained. The specification does not indicate a wavelength.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation of an intensity ratio less than 0.2 in claims 1 and 3 is relative and renders the claims indefinite. The limitation of an intensity ratio less than 0.2 is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. See argument above.

To the extent the claims are understood in view of the 35 U.S.C. 112 rejections above, note the following prior art rejections.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sonobe et al., US 5,721,071 "Sonobe".

See Office Action of 6/21/00 for the reasons for rejection.

Claims 1-4 are rejected under 35 U.S.C. 102(e)/103(a) as being anticipated by and alternatively unpatentable over Kubota et al., US 6,139,990 "Kubota".

See Office Action of 12/6/00 for the reasons for rejections

Claims 1-4 are rejected under 35 U.S.C. 102(e)/103(a) as being anticipated by and alternatively unpatentable over Nagamine et al., US 5,932,373 "Nagamine".

See Office Action of 12/6/00 for the reasons for rejections

Claims 1-8 are rejected under 35 U.S.C. 102(e)/103(a) as being anticipated by and alternatively unpatentable over Hayashi et al., US 5,906,900 "Hayashi".

See Office Action of 12/6/00 for the reasons for rejections

Response to Arguments

Applicant's arguments filed 10/11/01 have been fully considered but they are not persuasive.

35 U.S.C. 112, first paragraph

Applicant argues that any deviations seen both in the numerator and the denominator would be cancelled out such that the ratio recited in the pending claims would be the same regardless of the device used to obtain the intensity measurement. This is not correct. The deviation is a function of the diffraction angle and is not the same for all planes. Therefore, deviations seen both in the numerator and the denominator would not cancel out as asserted by Applicant.

35 U.S.C. 112, second paragraph

See argument above for 35 U.S.C. 112, first paragraph.

Kubota et al.

Applicant argues Kubota does not teach or suggest all of the limitations of amended independent claims 1 and 3. Specifically, Kubota fails to teach or suggest that the negative active material comprises heat-treated graphite carbon material.

Examiner points out that "heat-treated" is a broad term that does not further distinguish the product-by-process claims of the instant invention. Kubota is not directed toward a method of producing a graphite material (hence claims 5-8 have not be rejected in view of Kubota),

Kubota is directed towards modifying a graphite material. However, Kubota teaches a graphite carbon material having an intensity ratio less than 0.04. The invention as a whole is obvious because irrespective of how the graphite material for an electrode is made, the products are the same. Applicant must show that the graphite carbon material of the claimed invention is materially different than the graphite carbon material of Kubota to overcome the rejection.

Nagamine et al.

Applicant submits that the negative active material recited by independent claims 1 and 3 is distinct from the negative active material disclosed by Nagamine. Specifically, the negative active material of amended independent claims 1 and 3 has the organic-insoluble components removed before heat treating the remaining organic-soluble components, and therefore, the end product of Nagamine is not the same as the end product of amended independent claims 1 and 3.

Examiner does not believe Applicant has shown that the negative active material of the claimed invention is materially different from the negative active material of Nagamine. Nagamine teaches a material for a negative electrode of a cell prepared by carbonizing and graphitizing an *organic* compound. See col. 4, lines 7-8. Therefore, Nagamine suggests that any organic-insoluble components are not present when the carbon material is prepared. Furthermore, in order to show unexpected results to overcome the obvious rejection (product-by-process), Applicant must show the products are different. Pointing out a possible difference in the method of making the claimed graphite material is not enough.

Hayashi et al.

Applicant argues Hayashi fails to teach or suggest the removal of organic-insoluble components before heat treating the remaining organic-soluble components. Specifically, Applicant argues Hayashi does not teach or suggest claim 5 because the reference teaches removal from a slurry, not from either a coal tar pitch or a petroleum pitch. Thus, Applicant concludes the removal steps are not equivalent.

Note the specification states on page 4, "The negative active material is prepared by dissolving a coal tar pitch or a petroleum pitch in an organic solvent to remove insoluble components therefrom, heat-treating the pitch at a temperature in the range of ...". Also on page 5, last line-page 6, the specification states toluene may be the organic solvent. Hayashi teaches in col. 5, lines 9-29 that an organic solvent such as toluene may be added to the carbon material. In col. 5, line 65-col. 6, line 8 Hayashi teaches that the organic solvent is added to the carbon material (step A: mixing step) before heat treatment. In col. 7, lines 1-6 Hayashi states that during the mixing step, the carbon material has been subjected to removal of certain volatile components. Note coal tar pitch or a petroleum pitch, in an organic solvent can be considered a slurry. Thus the removal steps of the instant invention and Hayashi are equivalent and Applicant's arguments are not convincing.

Sonobe et al.

Applicant submits that Sonobe does not teach or suggest that the heat treatment step is implemented only upon the organic-soluble components, which are a result of dissolving the pitch in an organic solvent to remove organic-insoluble components.

Sonobe teaches the addition of quinoline (organic solvent) to petroleum pitch or coal pitch in col. 2, lines 17-30. In col. 2, lines 17-20 Sonobe teaches "a carbonized mesophase bead material...obtained from pitch" and in line 31-32 "*recovering* the mesophase beads". Therefore, the reference teaches and suggests that impurities are removed from the pitch. The instant claims do not explicitly state the pitch is not subjected to heat treatment before the impurities are removed. The claims require only that the pitch be heat-treated after the impurities are removed. Sonobe teaches the pitch is heat-treated before and after the addition of quinoline.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is (703) 308-8821. The Examiner may normally be reached Monday-Thursday (9:00 AM-7:30 PM). My supervisor is Gabrielle Brouillette, who can be reached at (703) 308-0756. The Art Unit receptionist can be reached at (703) 308-0661 and the official fax number is (703) 305-5433.

December 27, 2001

CAROL CHANEY
PRIMARY EXAMINER